

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

A NEW *Faxonella* FROM NORTHEAST LOUISIANA
(DECAPODA, ASTACIDAE)

BY JERRY G. WALLS

*Department of Biological Sciences, McNeese State College,
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The genus *Faxonella* (Creaser, 1933) was diagnosed by Fitzpatrick (1963), who recognized two species, *F. clypeata* (Hay, 1899) and *F. beyeri* (Penn, 1950). The new species here described brings to three the number of known species. Two of these, *F. beyeri* and *F. creaseri* (new species), are endemic to Louisiana.

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***Faxonella creaseri* new species**

Diagnosis: Lateral rostral spines and cervical spines absent; rostrum short and broad, one and one-half or fewer times as long as broad. Shape of chela (Fig. 4) and carapace as in *Faxonella clypeata* and *F. beyeri*; areola variable, 25.9-33.1 percent of carapace length (average 30.0), and 2.3-5.3 times as long as broad (average 3.8). Male with copulatory hooks on third pereopods only. First pleopod of form I male (Figs. 1-3) terminating in two rami: central projection long, flattened, bent mesially; mesial process much shorter, only about one-half as long as central projection, removed from and paralleling central projection. In usual position, terminal elements of left pleopod overlap those of other (Fig. 3). Annulus ventralis (Fig. 5) immovable, subovate, with U-shaped depression between cephalic tubercles; caudal region depressed, with contours as figured.

Holotypic male, form I: Body subovate, not depressed. Abdomen narrower than thorax. Width of carapace at level of caudal margin of cervical groove slightly less than height. Areola of moderate width,

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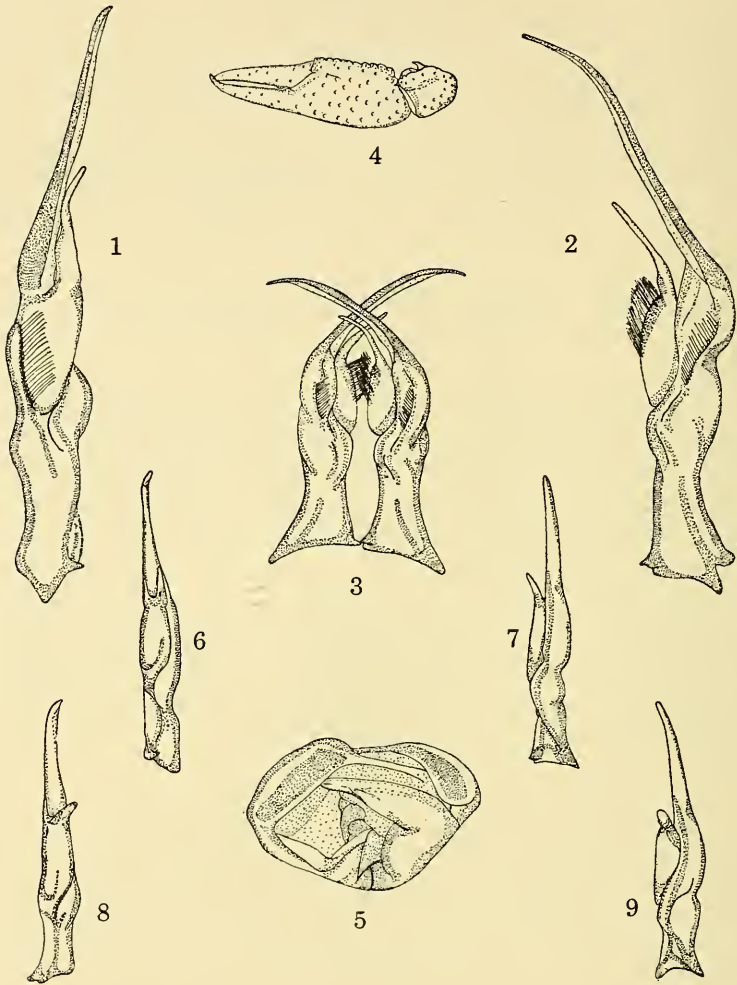
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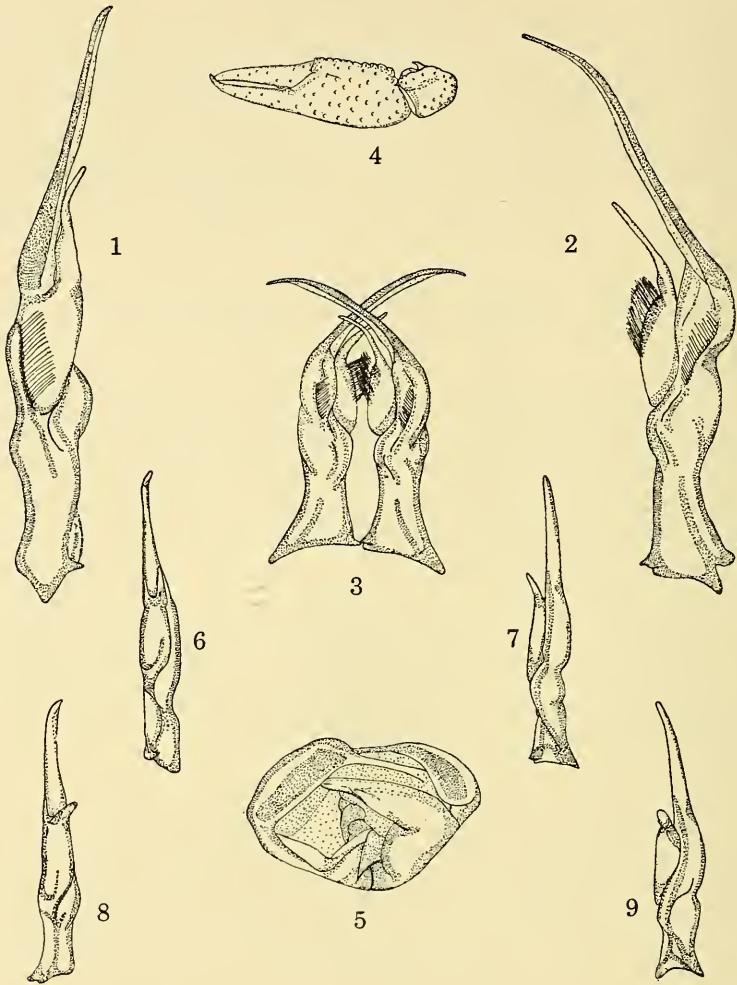
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FIGURES 1-9. *Faxonella creaseri* new species. 1. Mesial view of first pleopod of male, form I. 2. Caudal view of first pleopod of male, form I. 3. Caudal view of first pleopods of male, form I, *in situ*. 4. Chela of male, form II. 5. Annulus ventralis. 6. Mesial view of first pleopod of male, form II. 7. Caudal view of first pleopod of male, form II. 8. Mesial view of first pleopod of male, form II, with shrunken mesial process. 9. Caudal view of first pleopod of male, form II, with shrunken mesial process.



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TABLE 1. Measurements of *Faxonella creaseri* (in mm.).

	Holotype	Allotype	Morphotype
Carapace			
Height	6.7	8.0	6.0
Width	6.4	7.4	5.5
Length	14.5	18.1	14.0
Rostrum			
Length	3.0	4.1	3.7
Width	2.5	3.5	2.5
Areola			
Length	4.8	5.8	4.2
Width	0.9	1.5	1.0
Right chela			(Left)
Length (outer margin)	8.5	9.0	7.0
Length (inner palm)	3.7	4.3	3.1
Width of palm	3.0	4.2	2.5
Length of dactyl	4.6	5.0	3.8
Abdomen, to tip of telson	16.2	18.8	15.1

5.3 times longer than wide, with two or three punctations in narrowest part; cephalic portion of carapace about 2.2 times as long as areola; length of areola 33.1 percent of total length of carapace. Rostrum without lateral spines; widest at base, very gradually converging toward tip; margins raised but not thickened; no median carina present, but distinct impressed median line visible toward tip; upper surface distinctly concave. Acumen slightly upturned; short but distinct. Postorbital ridge distinct, ending bluntly without spine. Branchiostegal spine small, indistinct. Cervical area without spines, although low tubercles present.

Antennule with small spine on ventromesial margin about midlength of basal segment. Antenna of usual form but broken. Antennal scale extending beyond tip of rostrum and closely resembling that of *F. clypeata* and *F. beyeri*.

Chela with palm inflated; closely resembling that of *F. clypeata* and *F. beyeri* in all respects; inconspicuous tubercles present on proximal cutting edges of both fingers; fingers meeting evenly for most of length when closed, gaping slightly at base.

Hooks on ischiopodites of third pereopods only; hooks acute and as long as greatest diameter of ischiopodites.

Abdomen 110 percent of carapace length; cephalic region of telson with three spines in left and four spines in right caudolateral angles.

First pleopod (figs. 1-3) reaching almost to coxa of first pereopod when abdomen is flexed. Tip terminating in two rami as follows: central projection corneous, long, slender, strongly compressed and

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First pleopod (figs. 1-3) reaching almost to coxa of first pereopod when abdomen is flexed. Tip terminating in two rami as follows: central projection corneous, long, slender, strongly compressed and

flexible toward tip; tip recurved ventrally; mesial process noncorneous, about one-half length of central projection, slender, with acute apex and situated parallel to central projection but removed from mesial edge of latter by at least width of mesial process. In usual position (fig. 3) both rami are crossed, the mesial processes extending laterally beyond lateral edges of central projections.

Allotypic female: Similar in most respects to holotype, but chela proportionately shorter, broader, and more depressed; fingers stouter, with distinct tubercles on cutting edges, gaping narrowly throughout their length. Areola wider, 3.9 times as long as wide, with four to six punctations in narrowest part.

Annulus ventralis (fig. 5) subovate with greatest length in transverse axis; immovable except for slightly free lateral edges. Surface contours as illustrated. Anterior margin produced into two conspicuous tubercles, the larger strongly excavated on its caudal surface; tubercles not meeting in midline, producing a U-shaped gap in cephalic view.

Morphotypic male, form II: Similar to holotype except for areola and secondary sexual characters. Areola 30 percent of length of carapace and 4.2 times as long as broad. Hook on third pereopod blunt, length only one-half maximum diameter of ischiopodite. First pleopod (Figs. 6-7) stouter, noncorneous; length and disposition of elements similar to holotype, except mesial process only one-quarter length of central projection.

Measurements: See Table 1.

Type-locality: Louisiana, Caldwell Parish, roadside ditch 3.0 mi. N. of Grayson on U.S. Hwy. 165.

Specimens examined: Thirty-two, all from Caldwell Parish, as follows: 3.9 mi. N. Caldwell-LaSalle Par. line on U.S. Hwy. 165, 22 July 1967, J. G. Walls and N. Arnold (1♂ I, 2♂ II, 1♀); 6.6 mi. N. Caldwell-LaSalle Par. line on U.S. Hwy. 165, 22 July 1967, J. G. Walls and N. Arnold (1♂ I, 4♂ II, 4♀); 0.9 mi. N. Caldwell-LaSalle Par. line on U.S. Hwy. 165 (La. Hwy. Dept. Rest Area), 29 July 1967, J. G. Walls and F. Amsden (7♂ I, 4♂ II, 5♀, including morphotype); type-locality, 29 July 1967, J. G. Walls and F. Amsden (1♂ I, 2♀, including holotype and allotype). All the above are designated paratypes.

Disposition of types: The holotype male, form I, allotype female, and morphotype male, form II are deposited in the United States National Museum (nos. 129215, 129216 and 129214, respectively). Paratypic series consisting of one male, form I, one female and one male, form II are deposited in the following collections: private collection of Dr. J. F. Fitzpatrick, Jr., Mississippi State University; Tulane University; Museum of Comparative Zoology; Instituto de Biología (Mexico); Australian Museum (Sidney); and the private collection of Dr. Joe B. Black, McNeese State College. The remaining specimens are in the collection of the author.

Color and habitat notes: Body translucent, pale brown with darker

flexible toward tip; tip recurved ventrally; mesial process noncorneous, about one-half length of central projection, slender, with acute apex and situated parallel to central projection but removed from mesial edge of latter by at least width of mesial process. In usual position (fig. 3) both rami are crossed, the mesial processes extending laterally beyond lateral edges of central projections.

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specks; pair of grayish-brown stripes extending from behind eyes to tip of telson. Stripes bordered laterally on abdomen by stripes of vivid reddish-brown. Lateral surfaces of carapace grayish, almost white. Chela tinged with light orange. Some specimens with patch of reddish-brown on cephalolateral region of carapace.

All specimens were taken from temporary pools in ditches or culverts. Vegetation, if present, was sparse and consisted of roadside grasses. Associated species were *Procambarus acutus* (Girard, 1852), *Procambarus tulane* Penn (1953), and an undescribed subspecies of *Cambarus hedgpethi* Hobbs (1948).

Variations: The specimens agree in most significant respects. Greatest variation is shown in the width of the areola, which varies from 2.3 to 5.3 times as long as wide, averaging 3.8 times. When more specimens have been taken it may be shown that this variation is correlated with age and/or sex. Size range of carapace length (in mm.): ♂♂, 13.5–17.6 (av. 15.8); ♀♀, 12.8–18.6 (av. 15.0). Some form II males show shrinkage of the mesial process (figs. 8–9).

Relationships: *Faxonella creaseri* is in many respects intermediate between *F. beyeri* and *F. clypeata*. Like *F. clypeata* it possesses a long central projection, but it also resembles *F. beyeri* in the long mesial process which extends parallel to the central projection. *F. creaseri* is distinct from both *F. beyeri* and *F. clypeata* in that the mesial processes overlap not only each other, but also the central projections. It is interesting to note that *F. creaseri* is found at the same latitude as *F. beyeri*, and both species are found near the edges of the trans-Mississippian range of *F. clypeata* (Fitzpatrick, 1963), *F. beyeri* to the west and *F. creaseri* to the east. Based on collections by Dr. Joe B. Black and me, both *F. beyeri* and *F. creaseri* are believed to be the only *Faxonella* found within their ranges. Neither species shows signs of intergradation with *F. clypeata* where their ranges are in close proximity, although the possibility of such intergradation does exist. Both *F. beyeri* and *F. creaseri* are common within their ranges and no obvious reasons exist for their seemingly isolated distributions.

Etymology: I take pleasure in naming this new species in honor of Prof. Edwin P. Creaser, who rediscovered *Faxonella clypeata* and first recognized *Faxonella* as distinct from his *Faxonius* (= *Orconectes* Cope, 1872).

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